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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/042,570	01/09/2002	Der-Hou Tsou	HC01-001	6622
28112	7590	01/10/2005	[REDACTED]	EXAMINER
GEORGE O. SAILE & ASSOCIATES 28 DAVIS AVENUE POUGHKEEPSIE, NY 12603			KUNEMUND, ROBERT M	
			[REDACTED]	ART UNIT
				PAPER NUMBER
				1765

DATE MAILED: 01/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/042,570	TSOU ET AL.
	Examiner Robert M Kunemund	Art Unit 1765

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 25 October 2004.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-61 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-61 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____                                    |

### DETAILED ACTION

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 to 8, 11, 12, 17 to 20, 23, 29, 38 to 40, 43, 46 to 48 and 51 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Korkishko et al.

The Korkishko et al reference teaches a method of producing waveguides. A ferroelectric crystal, lithium niobate is first placed into a chamber. The crystal is treated with a proton exchange process. The source of the proton can be an acid such as benzoic acid. Then the treated crystal can be annealed. The annealing step is optional. The final treatment to the crystal is a reverse proton exchange process. The properties of the crystal are determined by the processing steps, note entire reference and particularly, pages 1838,1840.

Claims 30 and 31 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Jp 07-218736.

The Jp 07-218736 reference teaches a method of producing waveguides. A ferroelectric crystal, lithium niobate is first placed into a chamber. The crystal is treated with a proton exchange process. The source of the proton can be an acid such as benzoic acid. Then the treated crystal can be annealed. The properties of the crystal are determined by the processing steps, note, translated abs.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 9, 10, 13 to 16, 21, 41, 42, 44, 45, 49, 50, 52, and 53 to 61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Korkishko et al.

The Korkishko et al reference is relied on for the same reasons as stated, *supra*, and differs from the instant claims in the process parameters. However, in the absence of unexpected results, it would have been obvious to one of ordinary skill in the art to determine through routine experimentations the optimum, operable process parameters in the Korkishko et al process in order to create the desired final waveguide characteristics as the reference does teach changes to the process effect the final product.

Claims 22 and 24 to 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Korkishko et al.

The Korkishko et al reference is relied on for the same reasons as stated, *supra*, and differs from the instant claims in the use of the waveguide. However, in the absence of unexpected results, it would have been obvious to one of ordinary skill in the art to determine through routine experimentations the optimum, operable use in the Korkishko et al process as the reference does teach several different uses of the waveguides.

Claims 32 to 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jp 7-218736

The Jp 7-218736 reference is relied on for the same reasons as stated, *supra*, and differs from the instant claims in the process parameters. However, in the absence of unexpected results, it would have been obvious to one of ordinary skill in the art to determine through routine experimentations the optimum, operable process parameters in the Jp 7-218736 process in order to create the desired final waveguide characteristics as the reference does teach changes to the process effect the final product.

*Response to Applicants' Arguments*

Applicant's arguments filed March 22, 2004 have been fully considered but they are not persuasive.

Applicants' arguments concerning the prior art have been noted. However, it is the examiner's position that the prior art does teach the claimed invention. The reference does teach a ferroelectric material. The Korkishko et al and Yamada

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references teach a two-step treatment of annealing and reverse proton exchange. The reference also teaches the diffusion process. Also, applicants have not stated which limitations are not taught or found in the references. Therefore, it is the examiner's position that the references teach the entirely claimed invention.

Applicants' argument concerning the 103 rejections has been considered and not deemed pervasive. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert M Kunemund whose telephone number is 571-272-1464. The examiner can normally be reached on 8 hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine Norton can be reached on 571-272-1465. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RMK

ROBERT KUNEMUND  
PRIMARY PATENT EXAMINER  
A.U. #1765